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UNITED STATES DISTRICT COURT
DISTRICT OF OREGON
EUGENE DIVISION

MCKENZIE FLYFISHERS,
STEAMBOATERS,

Plaintiffs,

vs.

BRUCE MCINTOSH, SCOTT
PATTERSON, OREGON DEPARTMENT
OF FISH AND WILDLIFE,

Defendants.

Case No. 6:13-cv-02125-TC

**PLAINTIFFS' MOTION AND
MEMORANDUM IN SUPPORT OF
MOTION FOR SUMMARY
JUDGMENT AND INJUNCTIVE
RELIEF**

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Legislative History:

S. Rep. No. 93-307, p. 7 (1973); U.S.C.C.A.N. 1973, pp. 2989, 2995	19
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Pursuant to L.R. 56-1, Plaintiffs McKenzie Flyfishers et al. (McKenzie Flyfishers) hereby respectfully file this motion and memorandum in support of their motion for summary judgment and injunctive relief against Defendants Bruce McIntosh et al. (ODFW).¹ ODFW has violated and will continue to violate Section 9 of the Endangered Species Act (ESA) by releasing excess hatchery spring Chinook salmon smolts into the McKenzie River basin.

Within the Upper Willamette River basin, only one river – the McKenzie – supports a genetically “primary” population of wild spring Chinook salmon that is “of the highest biological significance.” The run is nonetheless threatened with extinction under the ESA, in part because of adverse effects from hatchery fish released from the McKenzie Hatchery. Hatchery fish take wild fish via, among other things, “genetic introgression,” meaning they spawn with wild fish and produce hybrid offspring with significantly diminished fitness that manifests itself in fewer returning adults, poorer reproductivity among them, and lower survival rates; all of these traits are then passed down through generations. Over 14 years ago, the National Marine Fisheries Service (NMFS) found that to avoid jeopardizing the continued existence of wild spring Chinook in the McKenzie River, all hatchery Chinook should be removed from the river to prevent spawning with wild Chinook. And yet this year, the percentage of hatchery origin spawners (PHOS) in the McKenzie basin is about 61%—well over one-half of all spawning Chinook. Part of the reason for the high percentage of hatchery origin fish is that wild Chinook populations are at historic lows; NMFS found that, in 2013, the wild Chinook run declined to the “lowest levels on record.” ODFW has caused and continues to cause the illegal take of wild Chinook in the McKenzie River, and should be enjoined by the Court as requested below.

I. Background on the ESA.

The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” TVA v. Hill, 437 U.S. 153, 180, 184 (1978). “The plain

¹ Pursuant to LR 7-1(b) & (c), the parties’ counsel conferred related to this motion, and ODFW opposes it. The Court may enter injunctive relief to restrain state officials sued in official capacities. Pac. Rivers Council v. Brown, No. 02-243-BR, 2002 WL 32356431, **5–10 (D. Or. Dec. 23, 2002).

intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Id.* The ESA “reflects a conscious decision by Congress to give endangered species priority over ‘primary missions’ of federal agencies.” *Cal ex rel. Lockyer v. U.S. Dep’t of Agric.*, 575 F.3d 999, 1018 (9th Cir. 2009). The ESA mandates “institutionalized caution.” *Arizona Cattle Growers’ Ass’n v. Salazar*, 606 F.3d 1160, 1167 (9th Cir. 2010). A purpose of the ESA “is to preserve the ability of natural populations to survive in the wild” and “to promote populations that are self-sustaining without human interference.” *Trout Unlimited v. Lohn*, 559 F.3d 946, 957 (9th Cir. 2009). In the ESA, “Congress clearly intended that [agencies] give the highest of priorities and the benefit of the doubt to preserving endangered species.” *Defenders of Wildlife v. Flowers*, 414 F.3d 1066, 1074 (9th Cir. 2005).

To achieve these goals, the ESA “provides both substantive and procedural provisions designed to protect endangered species and their habitats.” *Am. Rivers v. NMFS*, 126 F.3d 1118, 1121 (9th Cir. 1997). Under Section 7, all federal agencies shall insure that they do not jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat. *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 518 (9th Cir. 2010). If a federal agency’s actions may affect a listed anadromous fish species, it is required to consult with NMFS and obtain its opinion whether the activity is likely to jeopardize the species. *Id.* If it may, NMFS then writes a Biological Opinion that, among other things, suggests a “Reasonable and Prudent Alternative” to the agency’s actions. 50 C.F.R. § 1536(b)(3). Ultimately, the federal agency that authorizes, funds, or carries out an activity that may jeopardize a listed species has the substantive duty to ensure that it does not. *San Luis & Delta-Mendota Water Authority v. Jewell*, 747 F.3d 581, 642-43 (9th Cir. 2014) (citations omitted).

Under Section 9 of the ESA, no entity may “take” individual members of an endangered species. *Or. Natural Res. Council v. Allen*, 476 F.3d 1031, 1033 (9th Cir. 2007) (Section 9 “establishes a blanket prohibition” on taking). Under Section 4(d) of the ESA, NMFS may extend the take prohibition to threatened species, 16 U.S.C. § 1533(d), and it has done so for spring Chinook in the McKenzie River basin. 65 Fed. Reg. 42, 477, 47, 475-81 (July 10, 2000) (codified at 50 C.F.R. § 223.203). NMFS has also established exceptions to the Section 9 take

prohibition called “Section 4(d) Limits.” Native Fish Soc’y v. NMFS, 992 F. Supp. 2d 1095, 1102 (D. Or. 2014). Limit 5 creates an exemption from the prohibition against take caused by a fish hatchery’s artificial propagation program, so long as the hatchery complies with an approved Hatchery and Genetics Management Plan (HGMP). Id. (citing 50 C.F.R. § 223.203(b)(5)).

Further, when federal action may jeopardize the continued existence of a listed species, and implementation of a reasonable and prudent alternative (RPA) will cause “incidental take” of members of a species, NMFS must provide an Incidental Take Statement (ITS) that specifies the permissible amount or extent of such incidental taking of the species, as well as “reasonable and prudent measures . . . necessary or appropriate to minimize such impact.” Or. Natural Res. Council, 476 F.3d at 1034; see Mt. Graham Red Squirrel v. Espy, 986 F.2d 1568, 1580 (9th Cir. 1993) (“Under section 7 of the ESA . . . limited takings may be permitted if they are incorporated into the ‘terms and conditions’ of a Reasonable and Prudent Alternative drawn up in connection with the issuance of a Biological Opinion.”). An ITS “acts as a safe harbor, exempting the specified amount of incidental taking from the taking prohibition of ESA section 9.” Wild Fish Conservancy, 628 F.3d at 530 (citing 16 U.S.C. § 1536(b)(4)). A “party that is neither a federal agency nor an applicant can take members of a listed species without violating [Section 9 of] the ESA, provided the actions in question are contemplated by an incidental take statement issued under Section 7 of the ESA and are conducted in compliance with the requirements of that statement.” Ramsey v. Kantor, 96 F.3d 434, 442 (9th Cir. 1996).

II. Facts.

A. Wild Chinook in the McKenzie River.

The McKenzie River originates in Clear Lake in the Cascade Mountains in Oregon and flows roughly 90 miles to its confluence with the Willamette River.² Chinook salmon (*Oncorhynchus tshawytscha*) that migrate upstream in the spring have inhabited the McKenzie

² The McKenzie River basin covers roughly 1300 square miles, much of which is designated as wilderness. A.R. 040429. The river includes rapids, still pools, and braided streams, and is used and enjoyed by many people, including anglers, boaters, hikers, cyclists, writers, and other enthusiasts. ODFW Ans. ¶ 12 (Dkt. #21).

River at least since recorded time. Historically, among anadromous fish, only those that could ascend Willamette Falls during high flows in could reach the McKenzie River. Administrative Record (A.R.) 040558 (Dkt. #46). The timing of the run for these flows “led to significant genetic adaption relative to other Columbia River spring Chinook salmon.” A.R. 038535.³

There are seven demographically independent runs of spring Chinook in the Upper Willamette River basin: in the Clackamas, Molalla/Pudding, Calapooia, North Santiam, South Santiam, Middle Fork Willamette, and McKenzie Rivers. A.R. 037643. In 2008, NMFS found that five of the seven runs “are facing critically high extinction risks,” including in the Molalla, North Santiam, South Santiam, Calapooia, and Middle Fork Willamette Rivers. A.R. 035092; see A.R. 038437 (two of five runs are “effectively extinct.”). Spring Chinook in the Clackamas River are at “moderate” risk of extinction, A.R. 037664, and at either a “moderate to low” or “low” risk of extinction in the McKenzie River. Cf. Pls.’ Ex. F at 13; A.R. 037664.⁴

In the Upper Willamette River basin, only the Clackamas and McKenzie River watersheds “contain sufficient habitat that is still accessible and of sufficient quality to produce significant numbers of natural-origin spring Chinook.” A.R. 038438-39.⁵ The only significant natural production of wild spring Chinook in the basin occurs in these two rivers. A.R. 037664.

³ Spring Chinook in the Upper Willamette River basin typically enter the Columbia River in February and March. A.R. 035092. They typically enter the McKenzie River in mid-May, with the peak of the run passing Leaburg Dam in June. A.R. 000129. They spawn mostly in September, but sometimes into October, in the mainstem and tributaries. A.R. 000131. Fry emerge from spawning areas in February and March. A.R. 040575. After fry emerge, they rear mostly in the mainstem river, for up to 18 months, before traveling downstream to the ocean to continue their life-cycle. A.R. 037638, 000131.

⁴ A 2011 NMFS document states that the run is at a “low” risk of extinction, A.R. 037664, while a 2014 Corps document states it is at “moderate to low” risk. Pls.’ Ex. F at 13.

⁵ Spring Chinook in the McKenzie basin have survived in part because they can access historic habitat near headwaters of the river, where they oversummer and spawn. A.R. 035092. They “require cool stream temperatures, typically found in or near headwater areas where flows are predominately snowmelt driven, to survive holding [over the summer] and subsequently, for successful reproduction.” A.R. 035092. Second, the “McKenzie population has been the least influenced by intra- or inter-basin transfers of hatchery stocks and is thought to retain a relatively high degree of adaptation to local watershed conditions.” A.R. 038437.

Among these two runs, the McKenzie River alone was estimated to produce historically 40% of spring Chinook above Willamette Falls, and now may account for one-half of all wild spring Chinook in the Upper Willamette River basin. A.R. 040575, 000134.⁶ “Wild” or “natural origin” fish are distinguished from hatchery origin fish of the same species by having an intact adipose fin, because the adipose fin is supposed to be clipped off hatchery fish before they are released into the wild. 70 Fed. Reg. 37,160, 37,167 (June 28, 2005). From the standpoint of genetics, wild Chinook in the McKenzie River are the sole “genetic legacy” population in the Upper Willamette River basin. A.R. 033395, 033406.⁷ NMFS has designated them as a “primary” population, meaning they are “of the highest biological significance.” A.R. 038538.

The number of wild Chinook spawning in the McKenzie River basin has decreased significantly in the last decade. Given that not all hatchery fish were fin clipped until 1996, relatively accurate population estimates for Chinook in the basin began with the adults that returned in 2002.⁸ Between 2002 and 2012, the population of wild Chinook spawning in the river

⁶ In 2008, NMFS found:

A substantial amount of habitat is still functioning properly in the McKenzie River Basin, as evidenced by the thousands of wild fish that return on an annual basis. This situation is drastically different than in other populations—like the Middle Fork Willamette or North Santiam—where few wild fish are being produced and the only source of fish for recovery efforts are found in the abundant hatchery stock.

A.R. 034909.

⁷ “Populations that are determined to be genetic legacies should be considered for prioritization in recovery efforts because they retain the most intact representatives of the genetic character of the ESU.” Pls.’ Ex. A at 6.

⁸ In 1941, based largely on creel counts, the Oregon Fish Commission estimated that 41,000 spring Chinook returned to the McKenzie River. A.R. 035448. Subsequently, agencies estimated that from 1990 to 2005, total escapement (how many adult fish escape harvest and predation and return to spawn) of naturally-spawning Chinook was roughly 1,484 to 2,983, with a mean of 2,104. A.R. 035940. But those estimates are unreliable. ODFW did not begin to clip the adipose fins of hatchery Chinook until 1996, so wild and hatchery fish could not be accurately distinguished until clipped fish began returning four to five years later. A.R. 0376854, 000104 (stating that historically, fishery managers “did not uniquely mark hatchery produced fish prior to release making it impossible to discern a wild fish from a hatchery fish.”). Second, estimates were based on how many Chinook passed Leaburg Dam, A.R. 033494, excluding those that

ranged from an estimated 5,000 to 1,200 wild fish, for an average of about 2,500 wild fish. A.R. 040983. Over the past five years, the population has declined even further, to just over an estimated 1,000 wild Chinook now. Declaration of Arlen Thomason, Ex. F.

On March 24, 1999, NMFS listed wild spring Chinook in the Upper Willamette River evolutionarily significant unit (ESU) as threatened with extinction under the ESA. 64 Fed. Reg. 14308 (March 24, 1999).⁹ On February 16, 2000, NMFS designated critical habitat for spring Chinook in the Upper Willamette River ESU, which includes the McKenzie River basin below impassable natural barriers. 65 Fed. Reg. 7764, 7778 (Feb. 16, 2000); 50 C.F.R. § 226.212. In 2005, NMFS listed both wild and hatchery spring Chinook in the Upper Willamette River ESU. 70 Fed. Reg. 37160 (June 28, 2005); 50 C.F.R. § 223.102(c)(6) (codified listing). A reason NMFS listed hatchery fish too was in part to gain federal control, *i.e.*, because NMFS “may need to approve the take of listed hatchery stocks to manage the number of naturally spawning hatchery fish to limit potential adverse effects on the local natural population[s].” *Id.* at 37195. However, recovery of spring Chinook is “focused on the development and conservation of self-sustaining naturally-produced populations.” A.R. 037634; *see Trout Unlimited*, 559 F.3d at 957 (explaining the history of listing of hatchery fish, but stating that the “primary goal” of recovery under the ESA “is to preserve the ability of natural populations to survive in the wild.”).¹⁰ As a result, the prohibition on “take” under Section 9 of the ESA applies only to members of the threatened species with an intact adipose fin—that is, to wild fish that spawn naturally. 70 Fed. Reg. 37,160, 37,194 (June 28, 2005) (codified at 50 C.F.R. § 223.203).

spawned below it. Third, estimates were based on adults with intact fins even though some were actually hatchery fish that did not get clipped. A.R. 000059.

⁹ In 1999, NMFS listed only wild spring Chinook, excluding non-native, fall-run Chinook, and finding that “none of the hatchery Chinook stocks identified as part of this ESU . . . is currently essential for the recovery of the ESU.” 64 Fed. Reg. at 14,315; 14,323.

¹⁰ ESA regulations state: “*Jeopardize the continued existence of* means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02 (*italics original; emphasis added*).

Several factors have contributed to the decline of spring Chinook in the McKenzie River. The basin has five major dams. A.R. 035453 (map of dams). In 1963, the Corps completed Cougar Dam on the South Fork McKenzie River, eliminating about 35 miles of Chinook habitat. A.R. 035454. In 1968, the Corps completed Blue River Dam on Blue River, eliminating about 2 miles of habitat. A.R. 033491. In 1963, the Eugene Water and Electric Board (EWEB) completed a three-dam project on the upper McKenzie; the Trail Bridge and Smith Dams and reservoirs eliminated about 8 miles of habitat (Carmen Dam is upstream of a barrier impassable for fish). A.R. 035454, 040451.¹¹ Second, commercial and recreational harvest has contributed to the decline. A.R. 035476.¹² Third, hatcheries are among the “primary limiting factors” for spring Chinook, in part because “large numbers of hatchery-origin fish spawning with those of natural origin have created a risk of genetic introgression.” A.R. 035107-08; see Trout Unlimited, 559 F.3d at 949 (“Interbreeding poses particular risks to natural salmon populations because it can result in decreased genetic differentiation.”).

B. The McKenzie Hatchery.

The Corps built or maintains 13 dams in the Willamette River basin and, to mitigate for lost habitat, funds five hatcheries that rear and release hatchery fish. A.R. 035802, 035806. On the McKenzie River, the Corps owns the McKenzie Hatchery, and provides funds for ODFW to operate it. A.R. 035850.¹³ ODFW also uses its state funds to produce hatchery smolts. A.R. 000012. To produce these fish, from mid-May to mid-October, ODFW collects adult Chinook that volitionally enter the hatchery via its ladder, and also sometimes traps adult Chinook at

¹¹ EWEB also owns Leaburg Dam on the mainstem, which fish pass via ladders. A.R. 035877.

¹² In 2011, NMFS estimated “overall exploitation rates (combined marine and fresh water harvest) . . . in the range of 19-21 percent” for spring Chinook in the Upper Willamette River ESU. A.R. 033837-38.

¹³ The laws authorizing the Corps to build Cougar Dam and Blue River Dam did not specify any number of fish for mitigation. A.R. 032434. In 2012, the Corps and ODFW entered into a “Cooperative Agreement” that, among other things, provides that the Corps will pay ODFW to produce and release hatchery Chinook to mitigate for loss of habitat in the South Fork McKenzie and Blue Rivers, thought to have supported 4,060 Chinook. A.R. 032435.

Leaburg Dam during late months of the run. A.R. 034909. ODFW uses these two sources for hatchery “broodstock” and to “outplant” adults elsewhere. A.R. 000013. The hatchery is characterized as an “integrated” program, meaning it is to use wild and hatchery Chinook in broodstock, with a goal of using 600 fish. A.R. 000012, 000059.¹⁴ ODFW marks hatchery Chinook offspring in two ways. First, while they are “fry” (early stage juveniles) in hatchery ponds, they are subjected to sudden changes in water temperatures that result in a permanent “otolith” mark in the inner ear. Pls.’ Ex. G (Deposition Transcript of ODFW Expert Cameron Sharpe [Sharpe Dep.]) 32:11-21. Second, before hatchery smolts are released into the river, they are put through a machine meant to clip adipose fins. A.R. 000058.¹⁵

ODFW also outplants some adult hatchery Chinook. In 1994, ODFW began outplanting hatchery Chinook into the South Fork above Cougar Dam, for “nutrient enrichment” and so they would produce smolts for bull trout to eat. A.R. 000013. Some outplants successfully spawned, and some offspring successfully migrated downstream through Cougar Reservoir and Dam, recreating a larger Chinook run in the South Fork. A.R. 036924. In 2008, NMFS found that this run is “of critical importance” to the recovery of wild Chinook in the basin. A.R. 034895.

C. Federal Agency Decisions under the ESA.

In 2000, Congress established the Pacific Northwest Hatchery Reform Project, finding that “the hatchery system [is] in need of comprehensive reform.” A.R. 041381. The same year, the Corps and the other agencies that authorize or fund fish hatcheries in the Upper Willamette River basin submitted to NMFS a Biological Assessment of how they believe hatcheries impact

¹⁴ ODFW has a goal of integrating 5%-10% wild Chinook into the broodstock annually. Pls.’ Ex. I at 3. Between 2002 and 2012, a range of 1.2% to 10.1% (with an average of 4.1%) of the hatchery broodstock included wild spring Chinook. A.R. 000158; Pls.’ Ex. B at 3. However, the Hatchery Scientific Review Group (HSRG) has issued standards for an integrated program, and the McKenzie Hatchery does not appear to meet those standards. Pls.’ Ex. C at 2.

¹⁵ The clipping process is imperfect. ODFW estimates that around 5% of hatchery fish are not clipped. A.R. 000059. However, data for fish returning to the hatchery from 2002-2007 show that the percentage of unclipped but hatchery-bred fish ranged from 32% to 89% of all unclipped fish. Pls.’ Ex. B at 3; see A.R. 036112 (Corps noting a “high incidence of mismarked fish.”).

ESA-listed wild salmonids in the basin. A.R. 040521. In 2000, NMFS issued a Biological Opinion on the hatcheries' effects. A.R. 040521. NMFS determined that to avoid jeopardy to the continued existence of wild Chinook in the McKenzie River, "[t]he Corps and ODFW shall develop plans and methods to capture and remove known hatchery Chinook so that they do not spawn naturally" in the river. A.R. 040655-56. NMFS specified that all hatchery Chinook that migrate past the McKenzie Hatchery should be trapped and removed at Leaburg Dam, *id.*, A.R. 0406566, to establish what NMFS later characterized as a "wild fish sanctuary" above the dam. A.R. 035875. The 2000 Biological Opinion expired in 2003. A.R. 040522.

In 2007, the Corps and the other federal "action" agencies prepared a Supplemental Biological Assessment, asking NMFS to issue its opinion on the effects on listed fish of federal facilities, including fish hatcheries, in the Upper Willamette River basin. A.R. 035784, 035787.¹⁶ For the McKenzie River, the action agencies proposed to continue funding the McKenzie Hatchery, but with "reform actions," including increasing the number of wild fish used in broodstock, reducing straying of hatchery Chinook, and, again, considering a trap at Leaburg Dam to remove all hatchery Chinook from the river. A.R. 036076-77.

In 2008, NMFS issued a Biological Opinion (BiOp), finding that the federal projects in the Upper Willamette River basin jeopardize the continued existence of Chinook and steelhead trout, and destroy or adversely affect their critical habitat. A.R. 035792.¹⁷ NMFS found: "Currently, the UWR Chinook ESU is at a high risk of extinction. Numbers of natural-origin spawners are low and long- and short-term productivity trends are negative. Five of the seven populations are at very high risk of extinction." A.R. 035107. NMFS found that changes to federal projects, as proposed by the action agencies, "do[] not adequately address adverse effects of the dams, revetments, and hatcheries on listed fish and their habitat." A.R. 035792.

¹⁶ The three federal agencies include the Corps, the Bonneville Power Administration (BPA), and the Bureau of Reclamation. A.R. 035784.

¹⁷ The BiOp and incidental take statement are effective through 2023. A.R. 035792.

In the BiOp, NMFS identified issues related to the McKenzie Hatchery. First, NMFS noted that, before 1996, when ODFW first sought to clip the adipose fins of all hatchery smolts, “it was presumed that hatchery fish straying above Leaburg Dam was minimal.” A.R. 034909. However, after fin-clipped adults began returning, NMFS found that “a substantial portion of the Chinook that migrated upstream of Leaburg dam were of hatchery-origin,” including in 2003 up to 36% of all spawning Chinook. A.R. 034909-10. NMFS stated that “[g]enetic introgression of hatchery fish into the wild populations in the McKenzie River is of significant concern and is the most critical hatchery issue in this consultation.” A.R. 034909. NMFS stated:

There are substantial risks with having hatchery fish interbreeding with the wild population. . . . The genetic risks are well documented in the literature. Naturally spawning hatchery fish can also confound the evaluation of the health of the wild population because non-natural, hatchery fish are continually spawning in the wild. . . . Both of these risks are concerns in the McKenzie population.

A.R. 034910. NMFS noted two possible solutions: (1) release fewer hatchery smolts, so fewer adults return to interbreed with wild fish, or (2) again, build a trap at Leaburg Dam to remove hatchery fish, to prevent any hatchery adults from migrating above the dam. A.R. 034910.¹⁸

Second, although NMFS found that restoring wild Chinook in the South Fork McKenzie is important, it stated “concern with using hatchery-origin fish for outplanting efforts above Cougar Dam....” A.R. 034910.¹⁹ Unlike hatchery fish with (usually) clipped fins, “[t]he risk is that progeny of these hatchery fish will be unmarked and indistinguishable upon return from other natural-origin fish. These F1 (first generation naturally spawning) hatchery fish would likely interbreed in the wild population, and thus put more hatchery genes into the wild population.” A.R. 034910. NMFS found that, if a trap is built at the base of Cougar Dam, “[i]t

¹⁸ In 2003, EWEB modified the ladder on the north bank of Leaburg Dam and re-built the ladder on the south bank, which now “allow[] all fish to pass unimpeded.” A.R. 035877.

¹⁹ The goal is to outplant 400 female and 200 male Chinook above Cougar Dam. A.R. 000015. The number of hatchery Chinook used to meet this goal depends on the number of unclipped fish that return to the base of the dam. A.R. 000097. ODFW has also historically outplanted “surplus” hatchery Chinook above Trail Bridge Dam, and into the Mohawk River. A.R. 000014-16.

may be important to only outplant natural-origin returns, even though the return may be low (e.g. < 100 fish) in order to promote local adaption within the South Fork subbasin.” A.R. 034910.

D. Reasonable and Prudent Alternative.

When NMFS found that federal projects in the upper Willamette River basin jeopardize the continued existence of spring Chinook, it specified measures that comprise a RPA that in its opinion would avoid jeopardy. A.R. 035117. The RPA provides that the action agencies “will implement the action described in the Willamette Hatchery and Genetics Management Plans (ODFW 2003, 2004a, 2005a, 2007a, 2008a, 2008b) for spring Chinook, summer steelhead, and rainbow trout, after NMFS approval of these plans.” A.R. 035180-81.²⁰ An HGMP, if approved and complied with, should address “direct take” of Chinook collected or used at the McKenzie Hatchery. A.R. 000128-29. There is no approved HGMP for the hatchery. ODFW Ans. ¶ 38.²¹

The RPA also addresses jeopardy to spring Chinook in the McKenzie River basin in the wild. To ameliorate genetic introgression, the RPA states that the action agencies will fund the design, construction, and operation of a trap at Leaburg Dam, “so that the area above Leaburg Dam will be for natural-origin Chinook only.” A.R. 035182, 034814. The RPA states that the action agencies “will complete construction of the sorting facilities by December 2013, and begin operation in time for the spring Chinook upstream migration beginning in 2014.” AR 035182. The RPA states that “[i]f an acceptable sorting facility at this site is deemed infeasible . . . then the Action Agencies will take alternative actions to reduce hatchery fish straying to less

²⁰ The BiOp states: “When approved by NMFS, the Action Agencies, in cooperation with ODFW, will implement the actions described in the NMFS-approved Willamette HGMPs for spring Chinook, summer steelhead, and rainbow trout.” A.R. 035185. The BiOp states that NMFS’s preparation of the biological opinion is a different process than its consideration whether to approve an HGMP, “since the fine details of the hatchery programs are not (and should not be) included in the Supplemental [Biological Assessment].” A.R. 035181.

²¹ Although the action agencies have proposed HGMPs to NMFS, including most recently in October, 2014, NMFS has not issued a “sufficiency letter” that states that it finds the proposal sufficient to proceed with its formal review process. Cf. Pls.’ Ex. F.

than 10% of the total population spawning in the wild.” Id.²² The RPA states: “It is necessary to reduce the effects of hatchery fish on this population to the lowest extent possible (0-10%) in order to restore this population and to be able to evaluate its sustainability without the continual infusion of hatchery spawners.” Id.²³

Second, the RPA provides that the action agencies will build a trap at the base of Cougar Dam to collect spring Chinook and release them into the South Fork McKenzie above the dam, to re-establish a viable run of wild spring Chinook in the South Fork. A.R. 035145; A.R. 035153. Because of concern over using hatchery Chinook as spawners, the RPA provides that the action agencies will “discontinue releases of all hatchery spring Chinook above Cougar Dam . . . once sufficient numbers of wild fish can be safely collected at the rebuilt Cougar Dam trap and outplanted above the dam.” A.R. 035183.²⁴ The RPA states as an example that 100 wild spring Chinook trapped at the base of Cougar Dam is sufficient to no longer release hatchery fish above the dam, but the decision about how many fish may be outplanted is made yearly by a Fish Passage and Hatchery Management Committee. Id. In contrast, if fewer than 100 wild Chinook

²² NMFS stated that the pHOS standard must be met by the spring migration in 2014:

If the co-managers and Action Agencies agree that constructing a sorting facility at Leaburg Dam is not a feasible or preferred approach, then an alternatives action plan needs to be developed and carried out to accomplish the desired results by 2014. . . . NMFS does not support, and RPA 6.1.4 does not allow, for any approach that does not meet a 10 percent or less pHOS by 2014.

A.R. 040960.

²³ The BiOp states that, because of rates of genetic introgression in the McKenzie, “[p]opulation traits are now not as diverse as the historical population, which is of concern with fluctuating environmental conditions and the ability of salmon to respond and survive.” A.R. 034915.

²⁴ Originally, NMFS did not require that only wild fish would be outplanted above dams, because it was concerned they were “too few in number to make an improvement in population viability and would expose the natural-origin fish to high prespawn mortality and expose their progeny to very high downstream mortality rates through the reservoirs and dams.” A.R. 034810.

are trapped at the base of the dam, the Corps may supplement outplants above the dam with hatchery fish from the hatchery, up to a maximum of 50% of all outplanted fish. Id.²⁵

Third, NMFS found that “a key limiting factor” for recovery of spring Chinook is the status of downstream fish passage from the free-flowing South Fork McKenzie above Cougar Dam through the reservoir and dam. A.R. 033834-35.²⁶ The RPA establishes deadlines for the action agencies to assess fish passage through the reservoir and dam, and to “begin operations by 2015” to accomplish passage. A.R. 035158, 035165, 035162, 035209.

E. Incidental Take Statement and Reasonable and Prudent Measures.

When NMFS issued its jeopardy opinion and RPA for federal projects in the Willamette basin, it also found that the projects would also result in the incidental take of listed salmon and steelhead trout. A.R. 035239. Accordingly, NMFS issued an ITS that specifies reasonable and prudent measures necessary to minimize take and limits for the extent of take exempted from liability. Id. The ITS includes terms and conditions that apply to the McKenzie Hatchery. The ITS states that the “authorization of the incidental and direct take of listed Chinook from the Chinook hatcheries will be processed under limit #5 (the artificial propagation limit) of the 4d Rule (June 28, 2005; 70 FRN 37160).” A.R. 035242. Limit #5 of the 4d Rule is the ESA regulatory provision that allows “artificial propagation programs” (meaning hatcheries) to cause “take” of listed species, if they comply with the terms of an approved HGMP. 50 C.F.R. § 223.203(b)(5)(i).²⁷ As to incidental take of spring Chinook caused by hatcheries, the ITS also includes the following limit: “The Action Agencies (in cooperation with ODFW) must ensure

²⁵ NMFS found “[t]he continual outplanting of adult hatchery fish above Cougar Dam represents significant productivity and diversity risks to the McKenzie population” of wild fish because, as noted, hatchery fish offspring would be indistinguishable from wild fish offspring. A.R. 035183.

²⁶ In 2005, the action agencies completed a “selective withdrawal tower” at Cougar Dam, to better control the temperature of water released through it. A.R. 033762. In 2010, a successful trap began to operate at the base of the dam. A.R. 005350.

²⁷ NMFS has since wrote the Corps to clarify that “incidental [as opposed to direct] take of listed Chinook salmon is covered” in the 2008 BiOp and ITS. A.R. 005439.

that listed species are taken only at the levels, by the means, in the areas, and for the purposes stated in the Biological Assessment, HGMPs, and the RPA.” A.R. 035291. The ITS also set numerical limits for take caused by trapping and passage of fish at Cougar Dam. A.R. 035246.

F. pHOS in the McKenzie River Basin.

For at least 12 years, pHOS in the wild in the McKenzie River basin has been calculated by counting redds, as well as clipped and unclipped spawner carcasses, shortly after Chinook spawn in the fall, and by later verifying those data by checking the otoliths of unclipped fish at a laboratory. A.R. 041002; Sharpe Dep. 32:22-33:3. Using that method, it can be verified whether unclipped fish carcasses are in fact wild fish, and those data can be used to “adjust actual counts of wild fish,” to determine pHOS. Sharpe Dep. 33:1-3. This is the “preferred method” to estimate pHOS, because it counts fish that actually spawned (since some may not spawn), and it ensures greater accuracy in estimating the number of wild spawners (and, as a result, the pHOS), given that some unclipped fish are actually hatchery fish. A.R. 029814; Sharpe Dep. 32:8.²⁸ Using this method, in the period 2002-2010, the mean pHOS in the McKenzie River basin in the wild was reported to be 44%, with a range of 28%-61%. A.R. 029815. The pHOS for 2012 was reported to be about 61%. A.R. 041135-66. The pHOS for 2013 was reported to be about 46%. A.R. 040987. Based on counts for redds and carcasses through November, 2014, but currently lacking data from otolith marks, the pHOS for 2014 is about 61%. Thomason Dec., Ex. A; see Sharpe Dep. 53:1-15 (explaining status of current data).²⁹

G. The Recovery Plan and Initial Alternatives to Meet the pHOS Limit.

In 2010, NMFS wrote the Corps and ODFW to ensure “a clear understanding” of how to “reduce the percentage of hatchery Chinook spawning in the wild to meet a <10% straying criterion with the population area.” A.R. 030887. NMFS noted that “[o]ver the last two years, the agencies have discussed conceptually the methods and risks/benefits of installing and operating a sorter at Leaburg Dam,” and although they had not yet determined it infeasible, “it would be a

²⁸ ODFW noted the preferred method to estimate pHOS as recently as 2013. A.R. 036762-763.

²⁹ ODFW should complete analyses of the 2014 data by March, 2015. Sharpe Dep. 53:20.

difficult undertaking that could potentially harm the co-mingled natural origin Chinook that it is intended to benefit, in terms of crowding, handling, delay, and stress at the dam site.” *Id.* NMFS had noted that “[a]ny additional handling, stress for spring Chinook that hold for extended periods before spawning is of greatest concern, particularly since prespawning mortality is a huge problem in the Willamette.” A.R. 030732. Accordingly, NMFS noted four possibilities to meet the PHOS standard: (1) a trap and collector/sorter at Leaburg Dam; (2) improve the fish ladder so more hatchery adults are attracted to it; (3) improve access to the Leaburg Hatchery, which hatchery Chinook swim into too, to trap them; and (4) “reprogram” (outplant) hatchery Chinook smolts from the McKenzie Hatchery into other rivers, to “significantly reduce or eliminate the likelihood of hatchery Chinook straying into the McKenzie River.” A.R. 030888.³⁰

In August, 2011, NMFS issued a “Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead” under Section 4(f) of the ESA. A.R. 037597-038058. The Recovery Plan states that “hatchery fish continue to dominate [Upper Willamette River] Chinook production.” A.R. 037689. The plan states:

New data collected since the last [Biological Review Team (BRT)] report have verified the high fraction of hatchery origin fish in all of the populations all in the ESU (even the Clackamas and McKenzie have hatchery fractions above . . . viability thresholds). The new data have highlighted the substantial risk associated with pre-spawning mortality. Although regional recovery plans are targeting key limiting factors for future actions, there have been no significant on-the-ground actions since the last BRT report [2005] to resolve the lack of access to historical habitat above dams, nor have there been substantial actions removing hatchery fish from natural spawning grounds.

A.R. 037689. The plan states: “The major concern with these hatchery programs is the negative effect hatchery fish spawning in the natural environment have on productivity and long-term fitness of naturally spawning populations.” *Id.* (internal citation omitted).

The plan states different goals for each spring Chinook population in the ESU. A.R. 037863. The population in the McKenzie River basin is a “priority population subbasin,” and has a “desired status goal of Very Low Risk.” *Id.* The plan states: “If the overall desired status goal

³⁰ In 2010, 127 adult hatchery Chinook entered the Leaburg Hatchery. A.R. 040950.

for a population is low risk or very low risk, then the target is achieving an average pHOS of 10%, regardless of spawn timing” A.R. 037659. The plan also identifies “key” and “secondary” threats to spring Chinook salmon.³¹ The plan states that the key threats to the viability of spring Chinook in the McKenzie River include: (1) impaired access to habitat above dams, including Cougar Dam, (2) impaired physical habitat, and (3) “hatchery management.” A.R. 037738, 037782. The plan states: “The risk of genetic introgression from interbreeding with hatchery Chinook represents a key threat to the McKenzie Chinook population.” A.R. 037742.

H. Recent Agency Actions.

In May, 2012, the action agencies and NMFS concurred that it is infeasible to build a collector/sorter at Leaburg Dam. A.R. 029804. Between 2012 and 2014, a private contractor and federal agencies released analyses of alternatives to meet the pHOS standard.³² The upshot was four possibilities: (1) distribute water from Cogswell Creek to incubate eggs and rear hatchery fry, so early life stages are more “imprinted” to the hatchery, and more return as adults; (2) improve the velocity and trajectory of water leaving the ladder to increase “homing” of returning adults; (3) release fewer hatchery smolts; and (4) increase wild Chinook numbers by achieving downstream passage at Cougar Dam. A.R. 029805-07. Commenting on the analyses, a Corps fish biologist stated: “It should be stated clearly that the only alternative which directly deals with the [pHOS] problem is reducing hatchery production in[to the] McKenzie, and this should be a specific alternative under consideration.” A.R. 030644.

³¹ “Key” threats are those “expected to have had the greatest impact on current population viability,” while “[s]econdary” threats have significant impacts “to a lesser degree than key concerns.” A.R. 037678 (emphases original).

³² The analyses include: “First Draft Assessment of Specific Actions to Reduce the Natural Spawning of Hatchery Chinook in the McKenzie River (Jan. 2012),” A.R. 030683; Second Draft Assessment of Specific Actions to Reduce the Natural Spawning of Hatchery Chinook in the McKenzie River (March 2012),” A.R. 030590; “The McKenzie River and Leaburg Hatcheries Reconnaissance Study and Pre-Design Report (April 2012),” A.R. 040900; “Assessment of Alternatives to Reduce Effects of Hatchery Origin Spawners on the McKenzie Natural-Origin Spring Chinook Population (Dec. 2013),” A.R. 029866; “Assessment of Alternatives to Reduce Effects of Hatchery Origin Spawners on the McKenzie Natural-Origin Spring Chinook Population (April 2014).” A.R. 029803.

In November, 2013, NMFS noted that “[t]he status of natural-origin spring Chinook salmon in the McKenzie River has declined recently to probably the lowest levels on record” A.R. 003325. The estimated population of approximately 1,100 wild spring Chinook in 2013, A.R. 040983, is roughly the same level as the estimated population in 1997, when for four years (1997-2000) fishing for Chinook was prohibited in the McKenzie River basin. A.R. 000034, 040645 (noting that, in “recent years, fishing in the McKenzie River has been closed.”)

In February 2014, the action agencies in coordination with ODFW submitted to NMFS another proposed HGMP. A.R. 00004-99. This HGMP states that ODFW would release 787,000 hatchery smolts annually during January, February and March. A.R. 000018, 000020. The HGMP earmarks 360,000 hatchery smolts for release for “conservation” purposes, meaning to have enough adults return for broodstock and outplanting above Cougar Dam. A.R. 000018. The HGMP does not specify the purpose of releasing the additional 427,000 hatchery smolts, but states a “[g]oal of 1,000 minimum” hatchery fish harvested in the McKenzie River basin. Id.³³

On September 30, 2014, the Court approved a consent decree between McKenzie Flyfishers and the Corps that states that, until NMFS approves an HGMP for the McKenzie River Hatchery pursuant to 50 C.F.R. § 223.203(b)(5), the Corps will not fund the release of more than 360,000 smolts from the hatchery into the McKenzie River basin. (Dkt. #65 at 5).

In October, 2014, the agencies submitted to NMFS another proposed HGMP. Pls.’ Ex. F. The HGMP states that ODFW will release 604,750 hatchery smolts in two equal batches in February and March, 2015 (and the same number for the next two years, after which it will increase). Id. at 15. In its submission letter, the Corps identified “significant concerns about the HGMP.” Id. at 1. The Corps stated that the HGMP lacks information to support releasing 604,750 smolts, because it does not explain how ODFW’s goal of 1,000 fish available for harvest might be met while minimizing impacts to ESA-listed species. Id. at 2. The Corps also “questioned the efficacy” of releasing smolts for adult outplanting above Trail Bridge Dam,

³³ ODFW has adopted administrative rules that direct it to “provide opportunity to catch 1,125 spring Chinook salmon in the Willamette River Basin above the mouth of the McKenzie River and 1,000 spring Chinook salmon in the [McKenzie] River sport fisheries.” A.R. 030758.

“given the quality of the habitat above” it, and because the releases implicate pHOS. *Id.* at 4.

McKenzie Flyfishers now seek summary judgment against ODFW for illegal take of wild Chinook, and an injunction prohibiting ODFW from releasing more than 360,000 hatchery smolts into the McKenzie River basin until the 10% pHOS limit is met.

III. Jurisdiction.

The ESA citizens suit provision “is a means by which private parties may enforce the substantive provisions of the ESA against regulated parties—both private entities and Government agencies.” *Bennett v. Spear*, 520 U.S. 154, 173, (1997) (citing 16 U.S.C. § 1540(g)(1)(A)). Pursuant to the citizens suit provision, 60 days before filing suit, McKenzie Flyfishers gave ODFW notice of their intent to sue. *See* Declaration of Peter M.K. Frost, Exs. A & B. Further, McKenzie Flyfishers have standing to bring this case, because they have been injured by ODFW’s actions, ODFW has caused those injuries, and the Court can redress their injuries. *See* Declarations of Chris Daughters, Bob Rasmussen, and Jeff Dose.

IV. Standard of Review.

Alleged “take” in violation of ESA Section 9 is subject to judicial review under the ESA citizens suit provision. 16 U.S.C. § 1540(g)(1)(A); *Native Fish Soc’y v. NMFS*, No. 3:12-cv-00431-HA, at 4-5 (D. Or. Aug. 15, 2013) (Dkt. #161) (the “ESA citizen suit provision creates an express, adequate remedy” for Section 9 claims). To prevail on a Section 9 claim, a plaintiff must prove by a preponderance of the evidence that a defendant’s actions may cause take of “one or more” members of a listed species. *Or. Natural Desert Ass’n v. Tidwell*, 716 F. Supp. 2d 982, 1005 (D. Or. 2010); *Defenders of Wildlife v. Bernal*, 204 F.3d 920, 925 (9th Cir. 2000) (plaintiff must prove that building a school “would more likely than not harass a pygmy-owl by annoying it to such an extent as to disrupt its normal behavioral patterns.”).³⁴

³⁴ “[T]he Act does not distinguish between a taking of the whole species or only one member of the species. Any taking and every taking – even of a single individual of the protected species – is prohibited by the Act. Hence the future threat of a even single taking is sufficient to invoke the authority of the Act.” *Loggerhead Turtle v. County Council*, 896 F. Supp. 1170, 1180 (M.D. Fla. 1995) (emphasis original; internal citations omitted).

V. Argument.

A. ODFW Has Violated and is in Violation of Section 9 of the ESA.

1. ODFW Is Illegally Taking Listed Chinook at the Hatchery.

Section 9 of the ESA prohibits the “take” of listed species. 16 U.S.C. § 1538.³⁵ “The term ‘take’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 16 U.S.C. § 1532(19) (emphases added). ODFW admits that “unclipped spring Chinook swim in the McKenzie Hatchery, that some of these are likely wild fish, and that ODFW captures, collects, or handles unclipped spring Chinook salmon that enter the McKenzie Hatchery.” ODFW Ans. ¶ 21. ODFW does not know “whether fish entering [the] hatchery with an adipose fin is hatchery or wild for sure.” Sharpe Dep. 34:19-21. All unclipped fish are then “tagged” and “loaded up into a truck and released downstream.” *Id.* at 34:16 & 33:25-34:1; A.R. 005965 (unclipped Chinook are “moved back to natural production areas.”). When it listed spring Chinook, NMFS stated that “[c]ollecting or handling of fish from any of the listed ESUs” constitutes “take.” 70 Fed. Reg. at 37196. In the BiOp, NMFS stated that “direct take of listed Chinook from the Chinook hatcheries will be processed under limit #5 (the artificial propagation limit) of the 4d Rule,” A.R. 035242, meaning that it would be regulated under an approved HGMP. There is no approved HGMP for the McKenzie Hatchery. ODFW is in violation of the ESA for taking wild Chinook at the hatchery without authority to do so.³⁶

2. ODFW is Illegally Taking Wild Chinook by Releasing Hatchery Smolts.

“Take” includes actions that “harass” or “harm” a listed species. 16 U.S.C. § 1532(19). “Harm” means “an act which actually kills or injures fish or wildlife. Such an act may include

³⁵ The Supreme Court has noted that “[t]ake’ is defined ... in the broadest possible manner to include every conceivable way in which a person can ‘take’ or attempt to ‘take’ any fish or wildlife.” *Babbitt v. Sweet Home Chapter of Communities for a Great Or.*, 515 U.S. 687, 704 (1995) (quoting S. Rep. No. 93-307, p. 7 (1973); U.S.C.C.A.N. 1973, pp. 2989, 2995.).

³⁶ ODFW’s current practices of collecting and transporting unclipped fish that enter the hatchery, without an HGMP that dictates proper procedures, increases pHOS as well. Sharpe Dep. 35:14-16 (“It is a flaw for us to release unclipped fish that enter the hatchery back into the river because that increases pHOS.”).

significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.” 50 C.F.R. § 17.3. When NMFS adopted its regulation defining “harm,” it stated that “any habitat modification that significantly impairs spawning, rearing, or migrating does constitute harm to the species and is a take pursuant to the provisions of the ESA.” 64 Fed. Reg. 60,727, 60,728 (Nov. 8, 1999). NMFS gave as an example of “habitat modifying-activities”: “Releasing non-indigenous or artificially propagated species into a listed species’ habitat or where they may access the habitat of listed species.” *Id.* at 60,730.

Wild spring Chinook are the sole “genetic legacy” salmon population in the Upper Willamette River basin, and a “primary” population “of the highest biological significance.” A.R. 033395, 038538. Fourteen years ago, when NMFS found that federal projects in the basin – including the McKenzie Hatchery – cause jeopardy, it determined that to avoid jeopardy, “[t]he Corps and ODFW shall develop plans and methods to capture and remove known hatchery Chinook so that they do not spawn naturally” in the McKenzie. A.R. 040655-66. Six years ago, when NMFS again found jeopardy from federal projects, it stated that “[g]enetic introgression of hatchery fish into the wild populations in the McKenzie River is of significant concern and is the most critical hatchery issue in this consultation.” A.R. 034909. In 2011, it repeated: “The risk of genetic introgression from interbreeding with hatchery Chinook represents a key threat to the McKenzie Chinook population.” A.R. 033494. Addressing genetic introgression, the RPA states: “It is necessary to reduce the effects of hatchery fish on this population to the lowest extent possible (0-10%) in order to restore this population and to be able to evaluate its sustainability without the continual infusion of hatchery spawners.” A.R. 035182. As to timing, NMFS stated: “NMFS does not support, and RPA 6.1.4 does not allow, for any approach that does not meet a 10 percent or less pHOS by 2014.” A.R. 040960. And yet the pHOS in the McKenzie River at the close of 2014 is close to 61%. Thomason Dec., Ex. A.

Dr. Gordon Luikart, a geneticist, fisheries expert, and professor at Flathead Lake Biological Station at University of Montana, explains why hatchery fish have maladaptive genes:

Hatchery domestication results from a process analogous to natural selection, but it occurs under unnatural conditions—the individual fish that are ‘selected’ are those better adapted to live in unnatural conditions (high density, no predators, no disease or different disease, unnatural food, artificial spawning). The process results in loss of the ability to avoid predation, loss of disease resistance, and loss of ability to forage and spawn efficiently. This artificial selection pressure is strong; it results in rapid adaptation to captivity with loss of the ability to survive and reproduce effectively in the wild. The genes underlying these maladaptive traits likely become fixed (or increase to high frequency) in hatcheries, even after only a few months of differential survival of embryos to smolts. These domestication effects occur even when the hatchery fish are derived from the nearby local wild population and the hatchery operations regularly incorporate local wild fish into the hatchery broodstock.

Declaration of Dr. Gordon Luikart ¶ 28. Dr. Luikart explains how hatchery Chinook harm wild Chinook:

Maladaptive genes from hatchery Chinook will likely be transmitted to wild Chinook and reduce the fitness of wild Chinook if hatchery Chinook are allowed to spawn in the wild, as will occur when returning hatchery Chinook stray onto the spawning grounds of wild Chinook. Such straying in the McKenzie River basin is documented, and is inevitable given the large number of smolts that have been released and are scheduled for release. The scientific literature demonstrates and in my opinion proves that hatchery fish derived from local natural populations harm those same natural (or wild) populations. The most evident impact is reduced fitness. When hatchery fish are released into the habitat of wild fish, introgression of maladaptive genes into wild fish manifests in several ways. Reduced fitness is manifested as reduced survival of embryos, juveniles, and adults, which results from increased susceptibility to predation, disease, and stress in general (e.g. from pollution, climate warming, or variation in precipitation and stream flow associated with climate change or dams). Reduced survival likely also results, because fish with hatchery ancestry can reduce competitiveness and the ability to acquire and retain quality habitat, shelter, food resources (fish compete for these things). Reduced fitness likely is also manifested as reduced reproductive success in adults, because they then show lower mating success, lower fecundity, and reduced viability of offspring. Introgression into wild Chinook from McKenzie Hatchery Chinook likely results in many hybrid (F1) individuals that fail to survive to reproduce, and thereby waste the genetic and reproductive resources of the wild parent.

Luikart Dec. ¶ 30.

Hatchery Chinook in the McKenzie River manifest maladaptive traits. While wild Chinook generally have a five-year life cycle between spawning and returning as adults, A.R. 000130, hatchery Chinook in the basin predominately return earlier, “as age-4 fish instead of age-5.” A.R. 037690. Both male and female hatchery adult Chinook are smaller than their wild counterparts. Sharpe Dep. 42:16-17. Mr. Sharpe, ODFW’s expert, testified: “If fish are smaller

then they tend to be less reproductively successful, especially males because they don't compete as well, but females that are smaller also tend to have fewer eggs so they're less reproductively successful . . . because they have a lower fecundity number of eggs per fish." Sharpe Dep. 42:22-43:2. In turn, reviewing population trends of wild Chinook in the basin, Dr. Luikart notes that "the steady decline of wild Chinook in the McKenzie River basin over the last decade is entirely consistent with, and in my view corroborates, reproductive depression associated with the huge and planned hatchery Chinook releases over that period." Luikart Dec. ¶ 32.

Harm to wild salmonids from hatchery fish is documented in other river basins in Oregon. In 2014, Dr. Mark Christie at Oregon State University noted that a study of the effect of hatchery steelhead trout on winter-run wild steelhead trout in the Hood River in Oregon showed that when one hatchery fish spawned with one wild fish, their offspring "produced only 55-60% of the number of offspring provided by hatchery fish with two wild parents." Pls.' Ex. H at 10. Dr. Christie noted studies that show that "[p]articularly for males, hatchery fish tended to spawn at younger ages, a factor that partly explain[s] their lower reproductive success." *Id.* at 4. Dr. Christie opined that male hatchery fish "may be more susceptible to environmental or genetic changes caused by hatchery propagation, perhaps due to relaxation of sexual selection or hatchery environments that promote early male maturity." *Id.* at 9 (citations omitted). And Dr. Christie noted that the harm to wild fish from hatchery fish can magnify over time; in Hood River, offspring of hatchery steelhead trout that had 15-25% reduced fitness "caused even greater effects on the fitness of the subsequent (F2) generation in the wild. Thus, even 5-10% differences in fitness could have important cumulative effects over time." *Id.* at 8.

Finally, ODFW has admitted that hatchery fish harm wild fish. Edward Bowles, when ODFW's Fish Division Director, submitted a declaration in litigation over the Columbia River dams, and explained the harms hatchery fish pose to wild fish: "The threats to wild populations caused by stray hatchery fish are well documented in the scientific literature. Among the impacts are substantial genetic risks that affect the fitness, productivity and genetic diversity of wild populations." Amended Decl. of Edward Bowles at ¶ 127, Nat'l Wildlife Fed'n v. NMFS, 839 F. Supp. 2d 1117 (D. Or. 2011) (No. 01-cv-640-RE), ECF No. 1633 (citations omitted). Mr. Bowles

noted that “[h]atchery programs also pose ecological risks to wild populations that can further decrease abundance and productivity” and that “[g]enetic risks increase substantially when the proportion of the adult population that is hatchery fish increases over 5%.” *Id.* Mr. Bowles noted that “[e]cological risks due to the presence of hatchery adults (including adults of a different species) have been demonstrated when the proportion that is hatchery fish is over 10%.” *Id.*; see also Native Fish Soc’y, 992 F. Supp. 2d at 1004–05 (relying on Bowles declaration).³⁷

Nonetheless, ODFW plans to release 604,750 smolts from the hatchery in 2015, which is 244,750 more than the consent decree. These smolts will return as adults in 2-5 years, Sharpe Dep. 42:1-7, and will likely cause harm when some interbreed with wild Chinook. The pHOS – currently 61% – is likely to remain substantially above 10% during this and a further extended period. However, ODFW has no permit or other authority to release any hatchery fish that will cause or contribute to already illegally excessive rates of genetic introgression.

3. ODFW Has No Authority to Take Wild Chinook.

An ITS specifies reasonable and prudent measures to avoid or minimize incidental take. Or. Natural Res. Council, 476 F.3d at 1034. The measures are mandatory. *Id.* The ITS includes a reasonable and prudent measure #5, which states: “The Action Agencies will comply with the following conditions that relate to the continued operation of the Hatchery Mitigation Program as described in the [Proposed Action], [Hatchery and Genetics Management Plans], and the [Reasonable and Prudent Alternative].” A.R. 035291. The measure states: “[L]isted species [can be] taken only at the levels, by the means, in the areas, and for the purposes stated in the Biological Assessment, HGMPs, and the RPA.” A.R. 035291.

³⁷ In a case in which NMFS defended using wild salmon to recover listed salmon, the court noted that the science regarding harm to wild fish from hatchery fish is “entirely undisputed.” Cal. State Grange v. NMFS, 620 F. Supp. 2d 1111, 1158 (E.D. Cal. 2008). The court noted that “[h]atchery fish are less fit for survival in the wild than genetically similar wild fish” and “[h]atchery releases have a significant negative effect on the productivity of wild populations by competing with wild fish for food and space; diluting the fitness of wild fish when adult hatchery fish stray and spawn with wild fish; and by potentially spreading disease.” *Id.* The court stated: “It is a fact that no one has ever used a salmon hatchery to restore a depressed wild population to the point where it is self-sustaining,” and “there is little or no evidence that hatcheries have been effective over the long term at assisting in the recovery of wild populations.” *Id.*

The RPA specifies that pHOS must be reduced to less than 10% of total spawning in the wild by the spring migration in 2014. A.R. 035182, 040960. By contrast, the pHOS of the McKenzie River spring Chinook population has been excessive and destructive for years, and remains so. Meantime, despite vigorous discussions, disputes, analyses, and delays among federal and state agencies, no actions have been taken that in fact reduced pHOS to at or below 10%. The RPA has been violated, by the kind of take the BiOp states is “the most critical hatchery issue in this consultation.” A.R. 034909. ODFW has no safe harbor in the ITS for any take caused by the release of hatchery smolts into the McKenzie River basin when the pHOS is above 10%, and McKenzie Flyfishers should be granted summary judgment as to liability.

B. McKenzie Flyfishers is Entitled to an Injunction.

1. Standard for Injunctive Relief for Substantive Violation of the ESA.

The ESA provides that a court may “enjoin any person, including . . . any [] governmental instrumentality . . . who is alleged to be in violation of any provision of this Act. . . .” 16 U.S.C. § 1540(g)(1). Generally, a plaintiff seeking an injunction must show: (1) it has or will suffer irreparable harm; (2) remedies such as damages are inadequate to compensate for that harm; (3) the balance of the parties’ hardships between warrants a remedy; and (4) the injunction is in the public interest. Monsanto Co. v. Geertson Seed Farms, --- U.S. ---, 130 S. Ct. 2743, 2761 (2010). However, in ESA cases, Congress has “decided the order of priorities” and made “it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities.” TVA, 437 U.S. at 194. Accordingly, “[u]nder the [ESA], the third and fourth factors always tip sharply in favor of protecting the species.” South Yuba River Citizens League v. NMFS, 804 F. Supp. 2d 1045, 1052 (E.D. Cal. 2011); Nat’l Wildlife Fed’n v. NMFS, 422 F.3d 782, 793-94 (9th Cir. 2005) (“In cases involving the ESA, Congress removed from the courts their traditional equitable discretion in injunction proceedings of balancing the parties’ competing interests.”) (citation omitted).

Moreover, because ODFW has violated the ESA by releasing hatchery smolts that “take” wild Chinook, ODFW now bears the burden of proving that any further releases of smolts will, in fact, not cause take in excess of the pHOS standard that represents the limit of take exempted

from liability in the ITS. In Washington Toxics Coalition v. EPA, 413 F.3d 1024 (9th Cir. 2005), the Ninth Circuit ruled that when a federal agency violated ESA Section 7 by failing to consult on its action, the agency thereafter bears the burden of proving that continuing to carry out the action that it failed to consult about would not, in fact, cause jeopardy. Id. at 1035. The Ninth Circuit reasoned that “[t]he purpose of the consultation process . . . is to prevent later substantive violations of the ESA.” Id. (citing Sierra Club v. Marsh, 816 F.2d 1376, 1389 (9th Cir. 1987)). The Ninth Circuit stated that “[p]lacing the burden on the acting agency to prove the action is non-jeopardizing is consistent with the purpose of the ESA and what we have termed its ‘institutionalized caution mandate[.]’” Id. By contrast, a court may allow “agency actions to continue during the section 7(a)(2) consultation process only if the actions are non-jeopardizing to the protected species and will not result in a substantive violation of the ESA.” Id. (emphasis added); accord Sierra Club, 816 F.2d at 1389 (“the institutionalized caution mandated by section 7 of the ESA requires the [Corps] to halt all construction that may adversely affect the habitat until it insures the acquisition of the mitigation lands or modifies the project accordingly.”).

Here, McKenzie Flyfishers have proven not just a procedural violation of the ESA, but that ODFW has violated the substantive prohibition against “take.” The take prohibition is the “core protection of the ESA.” S. Yuba River Citizens League v. NMFS, 629 F. Supp. 2d 1123, 1125 (E.D. Cal. 2009). As the Ninth Circuit has explained, under a statutory exemption to the take prohibition, only take “that is in compliance with the conditions” of the ITS “shall not be considered a taking.” Ramsey, 96 F.3d at 439 (quoting 16 U.S.C. § 1536(o)(2)). Asserting that an entity’s actions are in compliance with an ITS is an affirmative defense to the prohibition against take, a defense which the defendant has the burden of pleading and proving. See Harris v. Amgen, Inc., 770 F.3d 865, 882–83 (9th Cir. 2014) (a statutory exemption from liability under a statutory prohibition against certain securities transactions is an affirmative defense which defendant has the burden of proving).

Further, when an entity has violated the ESA “take” provision, and there is a showing that future harm to members of the species is “at least likely,” the proper remedy is an injunction. Nat’l Wildlife Fed’n v. Burlington N. R.R., Inc., 23 F.3d 1508, 1511 (9th Cir. 1994). McKenzie

Flyfishers have made the necessary showing by proving that take is occurring and that, if hatchery smolt releases continue, harm or harassment of wild Chinook is likely in the future. See id. at 1512 (“Past takings are indeed instructive, especially if there is evidence that future similar takings are likely”). Because compliance with the ITS is an affirmative defense which ODFW must prove, and because the allowable amount of incidental take is directly tied to the BiOp’s limits on actions that would jeopardize the survival of the ESU, the burden is on ODFW to prove that any release of smolts will be “in compliance with” the pHOS limit. Indeed, this is the pathway one district court laid out in the context of whether a private party enjoined from an activity that would result in even a prospective take would be required to do, to have an injunction against it changed. Marbled Murrelet v. Pac. Lumber, 880 F. Supp. 1343, 1367 n.45 (N.D. Cal. 1995), aff’d, 83 F.3d 1060 (9th Cir. 1996) (“If Pacific Lumber can establish through reliable surveys, conducted by an independent and impartial third party in strict compliance with the PSG Protocol, that [a forest slated for logging] is not ‘occupied’ by the marbled murrelet, it could seek to have the injunction lifted or modified.”).

2. McKenzie Flyfishers Are Entitled to the Relief They Request.

To redress ODFW’s violation of the ESA, McKenzie Flyfishers request that the Court enjoin ODFW from releasing more than 360,000 hatchery smolts into the McKenzie River basin until the pHOS is 10% or less. To address excessive pHOS, McKenzie Flyfishers and the Corps agreed that the Corps would fund no more than 360,000 hatchery smolts for release from the hatchery. McKenzie Flyfishers based this figure upon relatively straightforward calculations. To restore the wild Chinook run in the South Fork McKenzie, agencies maintain that 600 adult fish (400 females and 200 males) are needed for outplanting into the South Fork above Cougar Reservoir. A.R. 000059. From 2010-2012, wild Chinook returns to the trap at the base of Cougar Dam “have ranged from 219 to 496 fish.” A.R. 000096. From 2010 to 2013, a mean of about 350 wild Chinook returned to the trap. A.R. 025970, 032742, 010190, 008277. To make up for any gaps (i.e., lower than needed annual returns to the trap), in McKenzie Flyfishers’ view, an average of about 250 adult fish are needed to return to the hatchery for outplanting above Cougar Dam.

The agencies maintain that 600 adult fish (300 females and 300 males) are needed for hatchery broodstock. Pls.’ Ex. F at 11. From 2002 to 2010, the mean annual rate of adult hatchery fish collected at the hatchery was 0.43%.³⁸ So until wild Chinook runs fully recover, roughly 198,000 hatchery Chinook smolts should be released into the McKenzie River basin to yield an annual average of 850 returning hatchery adults needed for these two legitimate “conservation” purposes. A.R. 000018. McKenzie Flyfishers agreed to a higher figure in the consent decree to adjust for any sex ratio imbalance in returning adult hatchery Chinook, and to make a reasonable allowance for variations in year-to-year return numbers. But the far higher smolt release numbers ODFW proposes will exacerbate genetic introgression, without providing any meaningfully greater assurance of recovery in the South Fork.

By contrast, ODFW cannot justify releasing 604,750 smolts. First, ODFW intends to releasing 604,750 smolts in part to maintain a fishery in the McKenzie River, with the target being 1,000 returning adult hatchery Chinook being available to anglers. Sharpe Dep. 14:7-12. A large proportion – roughly 300,000 of the 604,750 smolts – would be required to produce 1,000 returning adult hatchery Chinook for a McKenzie River fishery. Declaration of Dr. Christopher Frissell ¶ 29. But, clearly, relatively similar levels of recent hatchery releases are not being caught or otherwise removed from the system, resulting in pHOS as high as 61%.

Second, 60,392 of the smolts ODFW plans to release in 2015 will be released to have 120 adults return to the hatchery for outplanting above the Trail Bridge Dam. Sharpe Dep. 39:19-40:8. Since roughly 1997, ODFW has taken any “surplus” adult Chinook that returned to the hatchery and released them above the dam and its reservoir at the headwaters of the basin. A.R. 000014. The Recovery Plan states that approximately 3% of habitat historically available for Chinook in the McKenzie River basin exists above Trail Bridge Dam and reservoir. A.R. 037758.³⁹ Adult Chinook cannot migrate upstream through the dam, because it has no ladder,

³⁸ Calculated from A.R. 000024, Table 1.12-4 and Pls.’ Ex. E at 6, table 3.8.

³⁹ The Recovery Plan does not estimate how much Chinook production was lost due to construction of Trail Bridge Dam and reservoir. Cf. A.R. 037758.

and any smolts migrating downstream must pass through the generating turbines, which can be lethal. A.R. 000382; Sharpe Dep. 36:15-22. The Recovery Plan states that providing passage at the dam is a “secondary” factor limiting Chinook recovery in the basin. A.R. 037825. When the Recovery Plan was issued, pursuant to a settlement agreement related to its facilities, EWEB was to build a fish ladder by 2017 to allow fish to migrate upstream, and screen the turbines to allow downstream fish passage. A.R. 03786, 037825 & 038002. Neither has been done.

Meantime, the “surplus” hatchery adults used to stock above Trail Bridge Dam are, as the Corps infers, “beyond the conservation needs of the species.” Pls.’ Ex. F at 4. Consistent with that view, Mr. Sharpe testified that this outplanting is “just something that’s tacked on to our program,” and a “minor component of the outplanting program until some very significant changes happen on the dam itself for fish passage.” Sharpe Dep. 38:17-18. Mr. Sharpe testified that ODFW “has no idea what the fate of” fish that may migrate downstream through the turbines may be. *Id.* In turn, the Corps “question[ed] the efficacy of the Trail Bridge program given the quality of habitat above Trail Bridge Dam,” and noted that “Federal funds and actions will be implicated because pHOS levels and results will be potentially affected.” Pls.’ Ex. F at 4. There is no compelling conservation purpose for these smolts, and those that return as adults will unnecessarily elevate pHOS in the McKenzie River basin.

3. ODFW Cannot Prove that Any of its Experiments Will Work.

Mr. Sharpe’s expert disclosures and deposition testimony state that ODFW seeks to meet the pHOS standard through six methods: (1) reducing hatchery smolt releases, and (2) changing when they are released; (3) modifying the hatchery ladder; (4) using and distributing water from Cogswell Creek; (5) trapping hatchery adults at Leaburg Dam; and (6) achieving downstream fish passage at Cougar Dam. Sharpe Dep. 12:7-21, 61:16-24 & Ex. 201 at 3. However, only reducing the number of hatchery smolts released into the basin is proven to work, is feasible, and is reliable to restore wild Chinook in the McKenzie River basin.

a. Reducing Releases.

ODFW plans to release 604,750 smolts, which is fewer than past years. But the effect is of an insufficient magnitude. Using accepted methodology for estimating pHOS, the expected

effect would be to eventually (after approximately 5 years) lower pHOS from about 44% to about 29% in the wild. A.R. 029821 (stating methodology). The pHOS would remain extraordinarily, and impermissibly, high—about 300% over the limit of exempt take in the ITS.

b. Changes When Smolts are Released.

After examining the proportion of fish returning to the hatchery as a function of when they were released as smolts, ODFW observed historical data suggesting that smolts released in the spring rather than in the fall had somewhat higher rates of return to the hatchery. Sharpe Dep., Ex. 203 at 10; Pls.’ Ex. E at 6. While there is no strong theoretical reason for this pattern, nor has it been shown in other hatchery situations, ODFW proposes to change all releases to the spring in hopes it will reduce pHOS. Whether this pattern will persist is to be determined, but the switch is experimental and cannot be relied on to reduce pHOS.

c. Modifying the Hatchery Ladder.

In 2007, the Corps noted the “[p]oor attraction of adults to McKenzie Hatchery” that exacerbates genetic introgression among hatchery and wild Chinook. A.R. 036108. Part of the problem may be that the river’s “thalweg,” *i.e.*, its main current, is across from the ladder, and “fish migrate up the far side of the river across from the ladder entrance, following a deep channel formed by scour around bedrock outcrops along the shoreline.” A.R. 029826. Examining this issue, in 2012, consultants reported that NMFS has stated that flow is a factor in attracting fish to a ladder or trap. A.R. 040914. But the agencies’ analysis based on the consultants’ report states that “certainty in achieving the pHOS goal is lowest [for any changes to the hatchery,] due to the uncertainty in the level of improvement that would be achieved in return rates.” A.R. 029834. Similarly, in April, 2014, the agencies addressed alternative ways of “Improving Homing and Collection of McKenzie Hatchery Spring Chinook,” and found: “Sufficient information was not available to quantitatively evaluate how homing or attraction rates would change under each individual alternative discussed below.” A.R. 029825. Instead, “[i]t is difficult to predict the reduction of straying with any of these measures, and while all of these measures will help, there is no guarantee of the performance in any particular year, and the performance may vary year-to-year depending on river flows and other measures outside the

control/influence of any of these alternatives. The overall effect of implementing all of the recommendations of this report will not be known until several years of monitoring and return data have been collected.” A.R. 040906.

In August, 2014, ODFW modified the first section of the hatchery ladder (nearest the river) to narrow and raise it, so exiting water increases in velocity and drop. Sharpe Dep. 16:9-10. Mr. Sharpe examined data on historical returns of Chinook to the hatchery, and found that, after the recent changes, “the proportion of total collections in August through October” is greater than in any other year during that period. Sharpe Dep., Ex. 203 at 6. The “percent of late collections” for that period was 1,274 fish, or 47% of those that returned in 2014. *Id.* at 10 (Table 3). However, ten years earlier, 2,717 fish, or 41% of those that returned in 2010, did so in the same period. *Id.* When asked if the difference between these percentages could “be within expected fluctuations of data that is independent of any effect of the modified hatchery ladder,” Mr. Sharpe testified: “Yes. It is always possible.” Sharpe Dep. 18:10. He also testified that the changes to the hatchery ladder might make it more attractive to wild Chinook too. *Id.* at 17:3-5.

Regardless, of whether these brief data are meaningful, ODFW admits that “[m]onitoring will be needed to determine if the modification attracts wild Chinook into the hatchery.” A.R. 030745. Dr. Frissell concurs, declaring: “It will take a number of years before any apparent changes to hatchery attraction rates can be judged significant or not.” Frissell Dec. ¶ 21. This experiment does not provide a legitimate basis to release hundreds of thousands of excess smolts.

d. Using and Distributing Water from Cogswell Creek.

To operate the hatchery, ODFW draws most of its water from the Leaburg Canal, which flows from the impoundment above Leaburg Dam, and a far lesser amount from Cogswell Creek, from which ODFW can divert water before the creek flows into the canal. A.R. 000048; 034908.⁴⁰ To attempt to reduce PHOS, ODFW is considering a “proposal to adjust the way Cogswell Creek water is dispersed in the hatchery so that all fish have the opportunity to imprint on Cogswell Creek . . . [to seek to] increase more uniform attraction of all hatchery fish into the

⁴⁰ ODFW has water rights of 50 cubic feet per second (cfs) from the canal and 20 cfs from the creek. A.R. 000151.

hatchery.” Sharpe Dep. 61:19-23. Mr. Sharpe testified that this is an “experiment” based on “a hypothesis at this point.” *Id.* at 64:3 & 62:8. Mr. Sharpe testified that he is unaware of any “peer reviewed publications or studies that demonstrate that the distribution of a source of water in a hatchery will result in a higher attraction rate to the hatchery among returning hatchery adults.” *Id.* at 62:4-8. The hypothesis is that ODFW can create a “unique water source” by distributing creek water to better “imprint” hatchery eggs and fry so hatchery adults are more attracted to hatchery outflows. A.R. 029825-26; 030744. ODFW states that the “highest priority use” of creek water to test its hypothesis is “during the low flow summer months . . . to assist with imprinting early rearing stages (egg/fry).” A.R. 030744. In those months, ODFW would route “all available water from Cogswell Creek up to the Water Right (20 cfs).” *Id.*, A.R. 029825.

A premise of this experiment is a consultants’ report that it “may be possible” to use Cogswell Creek to establish a “unique chemical signature of water” to enhance homing of hatchery fish.” A.R. 029826, 040914. But the report cites no study or data from any hatchery to support the hypothesis that a water source will increase homing. *Cf.* A.R. 040900-964.

Moreover, water from Cogswell Creek appears insufficient to test this hypothesis. Comments on a draft of the consultants’ report asked: “Is there enough Cogswell Creek water to do the proposed mixing during the critical periods indicated? State that case for or against in document.” A.R. 030755. The consultants did not do so. They opined as to fixes to supply lines, pipes, and valves, but did not address the “reliability of the water source at all Cogswell Creek flows.” A.R. 040919. In 1996, ODFW admitted that “Cogswell Creek is almost dry in the summer” Ps’ Ex. D at 33. During the four-years from 2009 to 2013, in the summer, ODFW reported using Cogswell Creek water at a mean of 7.52 cfs in June, 3.35 cfs in July, 2 cfs in August, and 1.75 cfs in September. Declaration of Ted Labbe, ¶ 14 & Ex. B. In the summer of 2014, there were not even 2 cfs in Cogswell Creek measured on July 14 or August 27: there were 1.8 cfs and 0.65 cfs, respectively, above the diversion to the hatchery. Labbe Dec. ¶ 16. There is no basis for any presumption that creek water is available during the low flow summer months when needed to test this hypothesis. And even if there were sufficient flows, and this experiment was implemented in the summer of 2015, as Mr. Sharpe admitted, data that may determine any

efficacy of the experiment “will become available around 2020.” Sharpe Dep. 65:19-23.

Meantime, no quantum of released hatchery smolts can be justified by this untested hypothesis.

e. Trapping Hatchery Adults at Leaburg Dam.

In recent years, ODFW has operated a trap on the fish ladder on the south bank at the Leaburg Dam to trap and remove hatchery Chinook from the river, so these adults could be used as broodstock in the hatchery. Pls.’ Ex. F at 10; Sharpe Dep. 25:18-20.⁴¹ ODFW operated the trap only in the “late run time, while the number of wild fish is very low at Leaburg Dam.” A.R. 000012. In 2010-2013, this late-run trapping occurred from the last few days of August through September. Thomason Dec., Ex. E. The trap is a “blockage for all fish coming up to the head of the ladder.” Sharpe Dep. 23:15-16. ODFW personnel “can stop fish there, climb down into the trap, pick up a fish, put it in a vessel and hoist it if [ODFW] wants to remove it from the system out of the ladder trap or pass the fish upstream.” *Id.* at 23:16-19.

ODFW intends to now operate the trap each year beginning on July 1, on the ground that trapping early will enable it to “reach our target of about 100 [hatchery] fish removed.” Sharpe Dep. 24:19-25:9.⁴² ODFW’s model for predicting pHOS and availability of returning hatchery fish for outplanting relies on removing these 100 fish to achieve its results.⁴³ Sharpe Dep. Ex. 203 at 4 & 8. ODFW asserts that July 1 is at “the latter end of the salmon run” and that it can then “remove what are predominately hatchery-origin fish.” Sharpe Dep., Ex. 201 at 3. But July is, in fact, one of the two months of the greatest number of wild Chinook passing Leaburg Dam, in most years greatly exceeding hatchery Chinook. In July, 2011, for example, 1,223 unclipped

⁴¹ Mr. Sharpe testified that “it’s variable” whether upstream migrating Chinook choose the north or south ladder at the dam, and are influenced by how EWEB chooses to operate the dam, and is “spilling” from one side or the other. Sharpe Dep. 22:16-24.

⁴² The October, 2014 HGMP states that the trapping “will not occur if run sizes of natural-origin [Chinook salmon] are greater than 3,000 fish.” Pls.’ Ex. F at 14. But if the trap begins operating July 1, at the beginning of the second month of greatest returns of wild Chinook, it is likely to begin operating before 3,000 wild fish have been counted passing Leaburg Dam.

⁴³ Whether this new trapping experiment will occur is contingent on whether ODFW receives funding for it, Sharpe Dep. 24:8-12, and NMFS approves it. Pls.’ Ex. F at 14.

Chinook passed Leaburg Dam, while only 169 clipped Chinook did. Thomason Dec., Ex. C. In July, 2012, 733 unclipped and only 101 clipped Chinook were counted at the dam. *Id.* For July, 2013, 318 unclipped and only 47 clipped Chinook were counted at the dam. *Id.*

Most important, this new trapping experiment is likely to significantly harm wild Chinook. A collector/sorter at Leaburg Dam was determined infeasible in part because “it could potentially harm the co-mingled natural origin Chinook that it is intended to benefit, in terms of crowding, handling, delay, and stress at the dam site.” A.R. 030887. NMFS has noted that “[a]ny additional handling, stress for spring Chinook that hold for extended periods before spawning is of greatest concern, particularly since prespawning mortality is a huge problem in the Willamette.” A.R. 030732 (emphasis added). Dr. Frissell declares:

Wild fish including Chinook do not migrate upstream with any predictable number or timing during any time of any particular day; they may in fact migrate upstream in significant numbers in a short period of days or even hours. Trapping wild Chinook even for a short time can cause significant harm, in terms of delaying their upstream migration or causing them to avoid the path to migration (the ladder) altogether. Either of those two results from the proposed trap at Leaburg Dam would likely even further exacerbate pHOS in the McKenzie River below the dam. Independently, wild Chinook trapped at the dam and later released to migrate above it may, because of confinement, delay, handling, or other factors, have reduced reproductive success and even experience pre-spawning mortality.

Frissell Dec. ¶ 25. Dr. Frissell’s opinion is corroborated by a peer-reviewed 2014 study and literature review of effects of trapping on wild sockeye salmon returning to the Wenatchee River in Washington. Pls.’ Ex. J. Biologists found that trapping can result in severe passage delays and a large proportion of fish failing to reach spawning grounds. *Id.* at 4. The biologists note that trapping can result in stressors to wild fish and ultimately reduced reproductive success among them. *Id.* The review of literature confirmed that these impacts are frequently observed. *Id.* at 5. The biologists caution for careful evaluation before initiating any trapping program. *Id.*

The proportion of Chinook that spawn below Leaburg Dam has been increasing over the last decade, approximately doubling to about 20-25% of the current total. Thomason Dec., Ex. B. Trapping at Leaburg Dam is likely to further exacerbate that trend. If more wild Chinook spawn

in the less optimal habitat below the dam, they are likely to be less reproductively successful, and they are more likely to interbreed with the high concentration of hatchery fish that spawn there.

ODFW's model of predicted results from operating the trap fails to assess or account for likely harm to wild Chinook. As Mr. Sharpe testified, the model merely "assumes we're operating the trap at Leaburg. And the only effect is the positive effect of removing a significant number of hatchery fish, a substantial number of hatchery fish." Sharpe Dep. 28:25-29:6 (emphasis added). By contrast, there is a great likelihood that running this experimental trapping will harm wild Chinook in the McKenzie basin, via pre-spawning mortality, avoidance, delay, or some combination of all three. ODFW has completely failed to first assess and rectify these impacts before embarking on this harmful experiment in an attempt to reduce pHOS.

f. Achieving Downstream Passage at Cougar Dam.

Finally, ODFW and McKenzie Flyfishers strongly support restoring a run of wild Chinook in the South Fork McKenzie by creating downstream fish passage at Cougar Dam and Reservoir. However, at this time there is no certainty that this can or will be achieved, as the Corps states it needs to establish an efficacious methodology, secure funding and, assuming these challenges can be met, modify the dam and/or reservoir to accomplish this goal. These significant uncertainties mean there is little or no basis to assume this effort project will materially affect the high pHOS on the McKenzie River within a reasonable time.

4. McKenzie Flyfishers Will Suffer Irreparable Harm if an Injunction is Not Issued.

"A reasonably certain threat of imminent harm to a protected species is sufficient for issuance of an injunction under section 9 of the ESA." Marbeled Murrelet v. Babbitt, 83 F.3d 1060, 1066 (9th Cir. 1996) (citations omitted). Here, as established above, it is reasonably certain that the pHOS will remain elevated in excess of the ITS standard for many years.

5. Other Remedies are Inadequate to Ameliorate the Harm.

McKenzie Flyfishers' claim is pursuant to the ESA citizens suit provision, so remedies such as fines or criminal penalties are unavailable. Cf. Weinberger v. Romero-Barcelo, 456 U.S. 305, 314 (1982) (noting availability of these remedies under the Clean Water Act.). Instead, "only an injunction could vindicate the objectives of the [ESA]." TVA, 456 U.S. at 314.

6. The Balance of Hardships Favors Wild Chinook.

“Under the ESA, the balance of hardships always tips sharply in favor of the endangered or threatened species.” Washington Toxics, 413 F.3d at 1035. Because of ongoing and unlawful take of wild Chinook and the likelihood of future harm to them, the Court should issue an injunction to protect them. Burlington N.R.R., 23 F.3d at 1510-11. Irreparable harm to wild Chinook, and thereby McKenzie Flyfishers and the public, outweigh possible interests ODFW has in releasing smolts in order to gain returning adults to outplant above Trail Bridge Dam and continue a recreational fishery. Cf. A.R. 030683 (ODFW biologist stating: “The most certain way to reduce the straying of hatchery Chinook in the McKenzie River is to not release as many hatchery fish. . . . However, . . . [r]educing releases of hatchery fish can affect the number of returning fish available for fisheries.”)

7. The Public Interest Favors an Injunction.

The statute violated forms the basis of any injunction. Owner Operator Indep. Drivers Ass’n, Inc. v. Swift Transp. Co., 367 F.3d 1108, 1112 (9th Cir. 2004); Weinberger, 456 U.S. at 322 (Stevens, J., dissenting) (“The appropriate remedy for the violation of a federal statute depends primarily on the terms of the statute and the character of the violation.”). Because this is an ESA case, the public interest favors an injunction. Nat’l Wildlife Fed’n, 422 F.3d at 794 (district court did not err in failing to consider economic harm when issuing an injunction in an ESA case, because “Congress has already struck the balance”).

VI. Conclusion.

The Court should grant McKenzie Flyfishers’ motion for summary judgment, and enjoin ODFW from releasing more than 360,000 hatchery Chinook smolts into the McKenzie River basin until a pHOS of 10% or less is achieved.

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Respectfully submitted,

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